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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,840	07/06/2006	Edwin Ijpeij	4662144	7522

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EXAMINER

LU, C CAIXIA

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/566,840

Applicant(s)

IJPEIJ ET AL.

Examiner

Caixia Lu

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For the purpose of clarity and proper English, the following corrections are requested:

- (i) At the beginning of each of claims 1-15 respectively, replace the term "A process" or "Process" with --The process--.
- (ii) At the beginning of each of claims 16-19 respectively, replace the term "Polymer obtainable" with --The polymer obtained--.

In lines 5-6 of claim 10, the limitation of "D is a Lewis basic ligand bonded to Z and M" lacks antecedence because the D of the spectator ligand is not bonded to any metal "M". Furthermore, the symbol "M" also lacks antecedence.

In lines 2-3 claim 12, the limitation of "Y representing an anionic moiety of S bonded to M" lacks antecedence because the D of the spectator ligand is not bonded to any metal "M".

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-7 and 12-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Boussie et al. (US 6,750,345), Guram et al. (US 6,316,663), and Lyu et al. (US 6,284,700) independently.

Boussie's Example 14 demonstrates the process of preparation of propylene polymer in the presence of ligand/metal catalyst compositions, wherein the ligand/metal catalyst compositions is prepared in situ by mixing the ligand compounds L1-L5^{respectively} with $\text{Hf}(\text{NMe}_2)_4$ and then combined with a borate activator and a trialkyl aluminum (col. 86, line 45 to col. 87, line 40; and cols. 123-124). It is noted that ligand compounds L1-L5 are bases. Boussie's teaching anticipates the instant claims 1-7, 12, and 14-16.

Likewise, Guram also teaches an olefin polymerization process in the presence of ligand/metal catalyst compositions (col. 3, lines 29-54; and col. 13, line 36 to col. 15, line 9), wherein the metal precursor is in the form of ML_n and the ligand compound is compounds (4a-1), (4a-2), (4a-3), or (5a-1) (col. 19-20). Guram's teaching anticipates the instant claims 1-7, 12, and 14-16.

Lyu teaches a polymerization process comprising contacting a metallocene compound and a compound having at least two functional groups (the spectator ligand), cocatalyst and monomer in polymerization reactor in lines 50-67 of col. 11 and such a polymerization process is demonstrated in Examples 21 and 22 of cols. 24-25. Lyu's teaching anticipates the instant claims 1-7 and 12-16.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guram et al. (US 6,316,663).

Guram's teaching is relied upon as shown above. Guram further teaches that M of ML_n is a transition metal selected from Groups 3-10 and n is 0-5 (col. 14, line 40 to col. 15, line 1).

Thus, it would have been obvious to a skilled artisan at the time the invention was made to employ Guram's teaching to polymerize olefins in the presence of a ligand/metal precursor (ML_n) catalyst composition wherein M is Group 4 metal with a valency of 3 since such is within the scope of Guram's teaching and in the absence of any showing criticality and unexpected results.

Allowable Subject Matter

7. Claims 9-11 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. While catalyst composition comprising a metallocene complex and an activator are commonly used in the process of olefin polymerization (see von Haken et al., US 6,234,950), there is no prior art that

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teaches the olefin polymerization process in the presence of a catalyst composition comprising a precursor transition metal compound and a cyclopentadienyl ligand compound.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (571) 272-1106. The examiner can normally be reached from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful and the matter is urgent, the examiner's supervisor, David Wu, can be reached at (571) 272-1114. The fax numbers for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1700.

A handwritten signature in black ink, appearing to read 'Caixia Lu', with a stylized, cursive script.

Caixia Lu, Ph. D.
Primary Examiner